What is claimed is:

1

A process for producing a vinylpyrrolidinone-cephalosporin derivative of 2

formula A 3

4

8

wherein 5

Y is CH or nitrogen; 6

R1 is hydrogen or an amino protecting group; and 7

* denotes a center of chirality

9

from a 3-amino-pyrrolidine derivatives of the formula

10

wherein 11

R1 is as above; 12

Z is hydrogen or an amino protecting group; 13

And 14

* is as above, 15

comprising: 16

converting a compound of the formula 17

18

- 19 wherein
- 20 X is a protected hydroxy group; and
- Z^1 is an amino protecting group;
- in the presence of hydroxylamine or an acid addition salt thereof into the N-hydroxy-
- 23 pyrrolidine derivative of the formula

24 25

reducing the N-hydroxy group to the secondary amine of the formula

26

- by hydrogenation with Raney nickel; and further processing said 3-amino-pyrrolide of
- formula I to said vinylpyrrolidine cephalosporin derivatives of formula A.
 - 1 2. The process according to claim 1 wherein the compound of formula I is (6R,7R)-
- ${\color{blue}27\text{-}[(Z)-2\text{-}(5\text{-}amino\text{-}[1,2,4]thiadiaol-3\text{-}yl)-2\text{-}hydroxyimino\text{-}acetylamino]-8\text{-}oxo\text{-}3\text{-}[(E)\text{-}left)-2}$
- ${\small 3} \qquad (R)\hbox{-2-oxo-[1,3']} bipyrrolidinyl-3-ylidenemethyl]\hbox{-5-thia-1-aza-bicyclo[4.2.0]} oct-2-ene-2-diameter (A) and the context of the$
- 4 carboxylic acid of the formula

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